CLAIMS

What is claimed is:

1. A compound selected from compounds 8-a through 8-s, as shown in Table 8.

2. An organic electronic device comprising at least one active layer between two electrical contact layers, wherein the at least one active layer comprises at least one compound selected from compounds 8-a through 8-s, as shown in Table 8.

3. The device of Claim 2 wherein the active layer is a light-emitting layer.

4. The device of Claim 2 wherein the active layer is a charge transport layer.

5. An organic electronic device comprising an emitting layer having an emission maximum in the range of 570 to 700 nm, wherein at least 20% by weight of the emitting layer comprises at least one compound having a Second Formula below:

$$IrL^aL^bL'_yL''_z, \qquad \text{(Second Formula)}$$

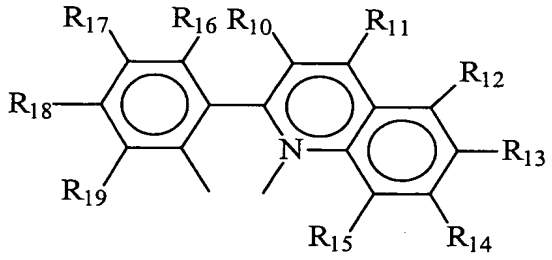
where:

y is 1;

z is 0;

L' is a bidentate ligand, and is not a phenylpyridine, phenylpyrimidine, or phenylquinoline;

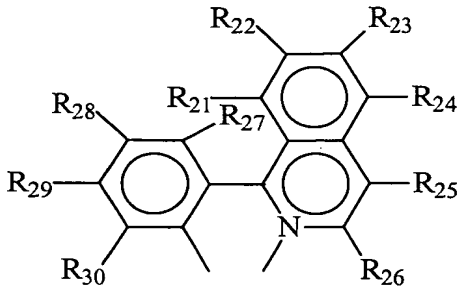
L^a and L^b are alike or different from each other and each of L^a and L^b has a structure selected from structure (XI) and structure (XII) below:



(XI)

where:

at least one of R_{10} through R_{19} is selected from F, C_nF_{2n+1}, OC_nF_{2n+1}, and OCF_2X, where n is an integer from 1 through 6 and X is H, Cl, or Br;



(XII)

where:

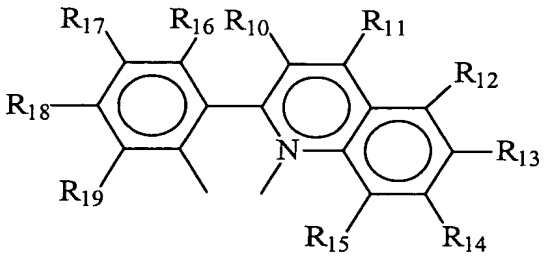
at least one of R_{21} through R_{30} is selected from F, C_nF_{2n+1}, OC_nF_{2n+1}, and OCF_2X, where n is an integer from 1 through 6 and X is H, Cl, or Br.

6. An organic electronic device comprising an emitting layer having an emission maximum in the range of 570 to 700 nm, wherein at least 20% by weight of the emitting layer comprises at least one compound having a Third Formula below:

$$IrL^aL^bL^c, \qquad \text{(Third Formula)}$$

where:

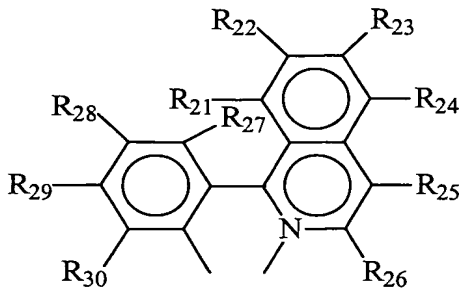
L^a, L^b, and L^c are alike or different from each other and each of L^a, L^b, and L^c has a structure selected from structure (XI) and structure (XII) below:



(XI)

wherein:

at least one of R_{10} through R_{19} is selected from F, C_nF_{2n+1}, OC_nF_{2n+1}, and OCF_2X, where n is an integer from 1 through 6 and X is H, Cl, or Br;



(XII)

wherein:

at least one of R_{21} through R_{30} is selected from F, C_nF_{2n+1}, OC_nF_{2n+1}, and OCF_2X, where n is an integer from 1 through 6 and X is H, Cl, or Br.

7. A compound selected from compounds 9-a through 9-l, as shown in Table 9.

8. An organic electronic device comprising an emitting layer having an emission maximum in the range of 450 to 500 nm, wherein at least 20% by weight of the emitting layer comprises at least one compound having a Sixth Formula below:

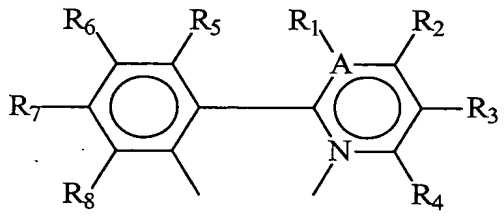
$IrL^aL^bL'L''$ (Sixth Formula)

where

L' is selected from a phosphine, an isonitrile, and carbon monoxide;

L" is selected from F, Cl, Br, and I;

L^a and L^b have structure (I) below,



(I)

wherein:

R_1 through R_8 are independently selected from alkyl, alkoxy, halogen, nitro, cyano, fluoro, fluorinated alkyl and fluorinated alkoxy groups, and at least one of R_1 through R_8 is selected from F, C_nF_{2n+1}, OC_nF_{2n+1}, and OCF_2X, where n is an integer from 1 through 6 and X is H, Cl, or Br, and

A is C.

9. The device of Claim 8 wherein L" is Cl, and L' is selected from triphenylphosphine; tris[3,5-bis(trifluoromethyl)phenyl]phosphine; 2,6-dimethylphenyl isocyanide; 3-trifluoromethylphenyl isocyanide; and 4-toluenesulfonylmethyl isocyanide.

10. The device of Claim 8, wherein the compound is selected from compounds 9-a through 9-l, as shown in Table 9.

11. A compound selected from compounds 12-a through 12-j as shown in Table 12.